

+B. sterolicum	ChoB	MCDSRANRADARGVASVSRRLFLAGAGLTA GAIALSSMSTASA (SEQ ID NO:77)	Evidence EX	Length 45
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Please insert the attached Sequence Listing as new pages --61-114--.

IN THE CLAIMS:

Please renumber the Claims pages from pages "61-64" to --115-118--.

IN THE ABSTRACT:

Please renumber the Abstract page from page "65" to --119--.


REMARKS

The specification has been amended to provide sequence identifiers. Applicants' amendments do not introduce new matter.

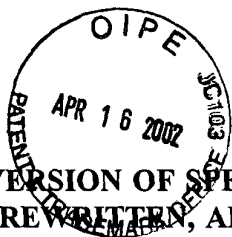
The Examiner has requested that a Sequence Listing be provided. Applicants submit this Preliminary Amendment and Response to provide as a separate part of the disclosure, a "Sequence Listing" pursuant to 37 C.F.R. §§ 1.821-1.825. Applicants submit herewith in paper copy the Sequence Listing. The contents of the paper and computer readable copies are the same and include no new matter.

Applicant respectfully request entry of this Preliminary Amendment prior to examination of the present application.

Dated: 04/11/02


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APPENDIX I

**MARKED-UP VERSION OF SPECIFICATION'S REPLACEMENT PARAGRAPHS
AND REVISED, ADDED, AND/OR CANCELLED CLAIMS**

The following is a marked-up version of the specification's replacement paragraphs pursuant to 37 C.F.R. §1.121(b) with markings showing changes made herein to the previous version of record of the specification.

IN THE SPECIFICATION

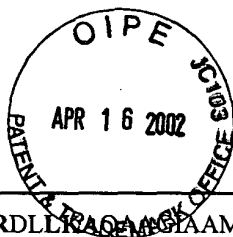
On page 29, please delete the table beginning on line 1 and ending on page 31, line 12, and replace with the following table:

TABLE 1

			Evidence	Length
I. PERIPLASMIC PROTEINS BINDING IRON-SULFUR CLUSTERS				
A. MauM family ferredoxins				
<i>P. denitrificans</i>	MauM	MEARMTGRRKVTRRDAMADAARA VGVACLG GFSLAALVRTASPVDA (SEQ ID NO:50)	VH	46
<i>E. coli</i>	NapG	MSRSAKPQNGRRRFLRDVVRTAGGLAAVGVA LGLQQQTARA (SEQ ID NO:51)	VH	41
B. '16Fe' ferredoxin superfamily				
<i>E. coli</i>	NrfC	MTWSRRQFLTGVGVLA AVSGTAGRVVA (SEQ ID NO:52)	VH	27
<i>D. vulgaris</i>	Hmc2	MDRRRFLTLGSAGLTATVATAGTAKA (SEQ ID NO:53)	VH	27
C. High potential iron protein (HiPIP)				
<i>T. ferrooxidans</i>	Iro	MSEKDKMITRRDALRNIAVVVGSVATTTMMG VGVADA (SEQ ID NO:54)	EX	37



			Evidence	Length
D. Periplasmically-located [Fe] hydrogenase small subunits				
<i>D. vulgaris</i>	HydB	MQIVNLTRRGFLKAACVVTGGALISIRMTGKA VA (SEQ ID NO:55)	VH	34
E. Periplasmically-located [NiFe] hydrogenase small subunits				
<i>E. coli</i>	HyaA	MNNEETFYQAMRRQGVTRRSFLKYCSLAATS LGLGAGMAPKIAWA (SEQ ID NO:56)	EX	45
+ <i>M. mazei</i>	VhoG	MSTGTTNLVRTLDSMDFLKMDRRTFMKAVSA LGATAFLGTYQTEIVNA (SEQ ID NO:57)	EX	48
<i>D. gigas</i>	HynB	MKCYIGRGKNQVEERLERRGVSRDFMKFCT AVAVAMGMGPAFAPKVAEA (SEQ ID NO:58)	EX	50
<i>E. coli</i>	HybA	MNRRNFIKAASCGALLTGALPSVSHA (SEQ ID NO:59)	VH	26
F. Membrane-anchored Rieske proteins				
<i>P. denitrificans</i>	FbcF	MSHADEHAGDHGATRRDFLYYATAGAGTVA AGAAAWTLVNQMNP (SEQ ID NO:60)		
+ <i>Synechocystis</i>	PetC	MTQISGSPDVPDLGRRQFMNLLTFGTITGVAA GALYPAVKYLIP (SEQ ID NO:61)		
+ <i>S. acidocaldarius</i>	SoxF	MDRRTFLRLYLLVGAAIAVAPVIKALDYVGY (SEQ ID NO:62)		
II. PERIPLASMIC PROTEINS BINDING THE MOLYBDOPTERIN COFACTOR				
A. Molybdopterine guanine dinucleotide-binding proteins, some of which also bind an iron-sulfur cluster				
<i>R. sphaeroides</i>	DmsA	MTKLSGQELHAELSRRAFLSYTAAVGALGLCG TSLAQGARA (SEQ ID NO:63)	EX	42
<i>E. coli</i>	BisZ	MTLTRREFIKHSGIAAGALVVTSAAPLPAWA (SEQ ID NO:64)	VH	31



			Evidence	Length
<i>T. pantotropha</i>	NapA	MTISRRDLLKAGAAAGTAAMAANIPLSSQAPA (SEQ ID NO:65)	VH	31
<i>W. succinogenes</i>	FdhA	MSEALSGRGNDRRKFLKMSALAGVAGVSQAV G (SEQ ID NO:66)	EX	32
<i>E. coli</i>	DmsA	MKTKIPDAVLAAEVSRRLVKTТАIGGLAMAS SALTLPFSRIAHA (SEQ ID NO:67)	EX	45
<i>H. influenzae</i>	DmsA	MSNFNQISRRDFVKASSAGAALAVSNLTLPFN VMA (SEQ ID NO:68)	VH	35
<i>S. typhimurium</i>	PhsA	MSISRRSFLQGVGIGCSACALGAFPPGALA (SEQ ID NO:69)	VH	30
B. Molybdopterine cytosine dinucleotide-binding proteins				
<i>P. diminuta</i>	IorB	MKTVLPSPETVRLSRRGFLVQAGTITCSVAFG SVPA (SEQ ID NO:70)	VH	37
<i>A. polyoxogenes</i>	Ald	MGRLNRFRLGKDGRRREQASLSRRGFLVTSLGA GVMFGFARPSSA (SEQ ID NO:71)	EX	44
III. PERIPLASMIC ENZYMES WITH POLYNUCLEAR COPPER SITES				
A. Nitrous oxide reductases				
<i>P. stutzeri</i>	NosZ	MSDKDSKNTQVPEKLGLSRRGFLGASAVTGA AVAATALGGAVMTRESWA (SEQ ID NO:72)	EX	50
B. Multicopper oxidase superfamily				
<i>P. syringae</i>	CopA	MESRTSRRTFVKGLAAAGVLGGLGLWRSPSW A (SEQ ID NO:73)	VH	32
<i>E. coli</i>	SufI	MSLSRRQFIQASGIALCAGAVPLKASA (SEQ ID NO:74)	VH	27
IV. METHYLAMINE DEHYDROGENASE SMALL SUBUNITS (TRYPTOPHAN TRYPTOPHYLQUINONE COFACTOR)				



PATENT
Attorney Docket No. **UALB-6699**

			Evidence	Length
<i>M. extorquens</i>	MauA	MLGKSQFDDLFGMSRNVAGHTSRRGFIGRVG TAVAGVALVPLLPVDRRGRVSRANA (<u>SEQ ID NO:75</u>)	EX	57
V. PERIPLASMIC PROTEINS BINDING FLAVIN ADENINE DINUCLEOTIDE				
<i>C. vinosum</i>	FccB	MTLNRRDFIKTSGAAVAAGVILGFPHLAFG (<u>SEQ ID NO:76</u>)	EX	30
<i>+B. sterolicum</i>	ChoB	MTDSRANRADATRGVASVSRRRFLAGAGLTA GAIALSSMSTSASA (<u>SEQ ID NO:77</u>)	EX	45